

SPECIFICATION AMENDMENTS

Please amend the Specification as follows.

[0002] It is common to use a process known as atomic layer deposition (ALD) to deposit films on semiconductor wafers to fabricate transistors, for example. In ALD, the semiconductor (e.g., silicon, germanium) wafer is placed in a reactor. A precursor material is pulsed into the reactor. The precursor material subsequently adsorbs and reacts on the wafer surface. The precursor material may be any one of hundreds of possible materials, [,] depending on the reaction product (i.e., metal oxide film, metal nitride film, etc.) desired. The reactor is then purged with an inert gas to remove the precursor material. A second reactant material is pulsed into the reactor. The second reactant material reacts with the precursor material on the wafer surface. Selection of the second reactant material depends on the reaction product desired and on which precursor material was selected. The reactor is purged again.

[0005] For example, using one discrete set of preset conditions may produce a film that has good insulation against current leakage but also causes silicon oxide or metal silicate at the interface between the silicon wafer surface and the metal oxide film to be formed. Interfacial silicon oxide or metal silicate can be problematic because these materials have relatively low permittivity, which reduces the effective dielectric constant of a transistor's~~r's~~ gate stack.

~~[0028]~~ [0028] In one embodiment, the first reactant 106 flow rate may be established at around approximately 100-300 standard cubic centimeters per minute (SCCM). However, the actual flow rate will depend on the materials to be deposited, the size of the reactor, and other factors. In one embodiment, the first reactant 108 flow rate may be established at around 5-50 SCCM.